Topic: Perimeter of a rectangle

Question: What is the rectangle's perimeter?

A rectangle has one vertex at $(0,0)$ and the opposite vertex at $(9,6)$.

Answer choices:

A 15

B 30

C 45

D 54

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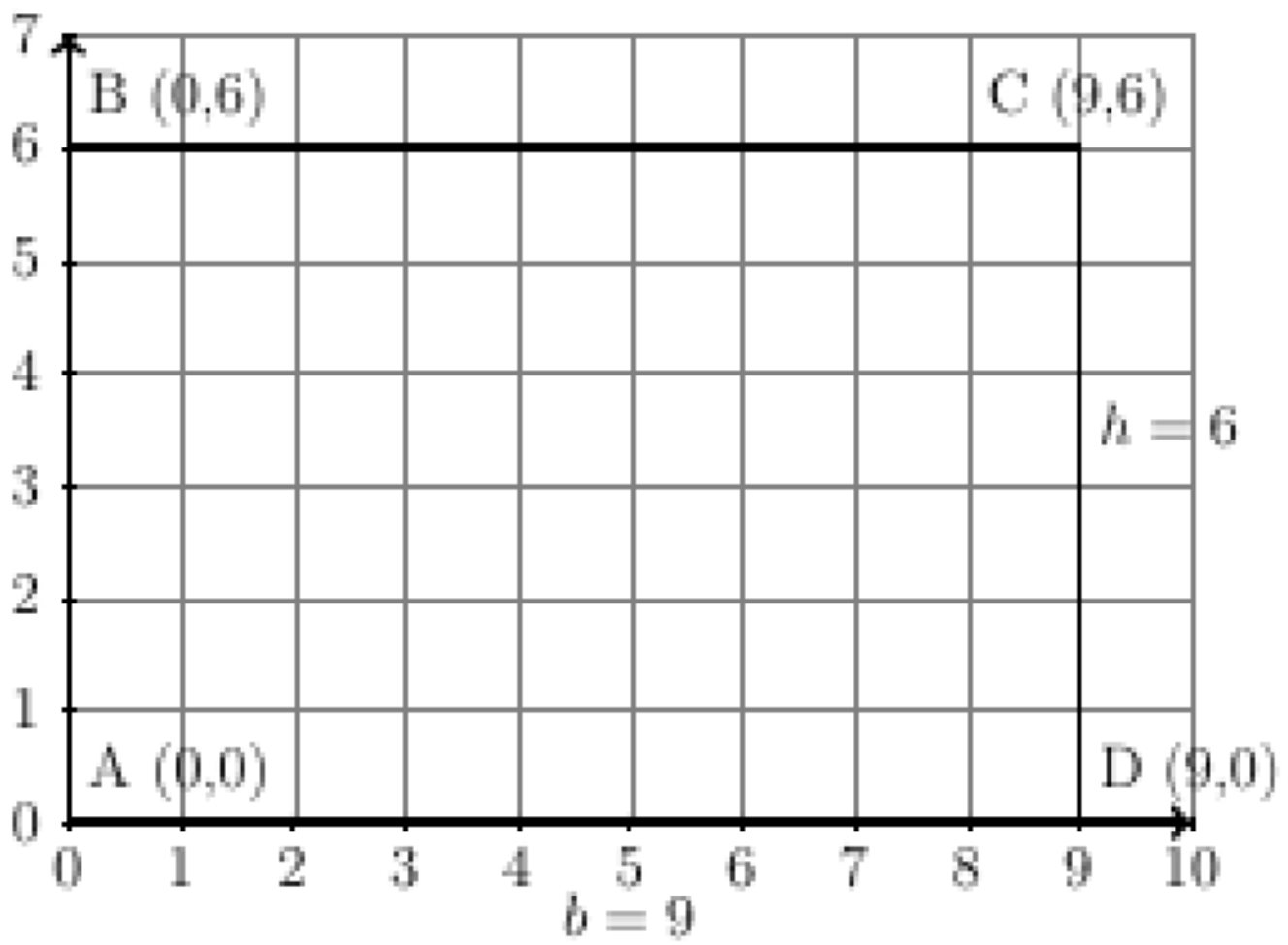
Solution: B

Perimeter of $ABCD$ is $AB + BC + CD + DA = 6 + 9 + 6 + 9 = 30$.



Or you could write

$$\text{perimeter} = 2b + 2h = 2(9) + 2(6) = 30$$

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Topic: Perimeter of a rectangle

Question: What is the rectangle's perimeter?

A rectangle has a base of 6 and an area of 54.

Answer choices:

A 12

B 15

C 22

D 30

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Solution: D

The formula for area of a rectangle is

$$A = bh$$

We know that $A = 54$ and $b = 6$, so

$$54 = 6 \cdot h$$

Rearranging, we get

$$h = \frac{54}{6} = 9$$

The rectangle will have two sides of 6 and two sides of 9.

$$2(6) + 2(9) = 30$$

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Topic: Perimeter of a rectangle

Question: What is the height of the rectangle?

A rectangle has a height that is twice the base, and a perimeter of 36.

Answer choices:

A 6

B 8

C 9

D 12

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Solution: D

Let the base be x, which would make the height $2x$.

The perimeter is made of two bases and two heights.

$$\text{2 bases} = 2(x) = 2x$$

$$\text{2 heights} = 2(2x) = 4x$$

So we can say that

$$\text{perimeter} = 2x + 4x = 6x$$

and we know that the perimeter is 36. Therefore,

$$6x = 36$$

$$x = 6$$

Which means the height is

$$\text{height} = 2x = 2(6) = 12$$

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